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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. #13

Application Number: 08/518,051
Filing Date: August 22,1995
Appellant(s): Stephen D. Russell, et al

Eric James Whitesell
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed on August 27,1998 .

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows: The drawing filed on 9/19/97 and on 9/19/97 **"driver interface circuit"** on figure 4 and **"programmable gray-scale LCD 40"** respectively and the amendment filed on 1/22/98 on page 2, lines 1-11 **"programmable gray-scale LCD 40"** introduces new matter.

(7) Grouping of Claims

Appellant's brief includes a statement that claims do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8). However, appellant's did not state which claims do not stand or fall together.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

Applicant's Admitted Prior Art (Figures 1-3)

5,196,839	Johary et al.	3-1993
5,680,185	Kobayashi et al.	10-1997

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3,6,10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art (figs. 1-3).

As to claims 1-3,6,10-11, Applicant's Admitted Prior Art discloses a super twisted nematic liquid crystal display system (figs. 1-3, also see, page 8, the last 2 lines) comprising: a polarizer (16) coupled to a beam of incident light (22) with respect to a polarization angle; a pixel sequence (14) coupled to the polarizer (16) comprising multiple liquid crystal display pixels (10,14) aligned collinearly along the beam of polarized light for varying the polarization angle (See, page 7, lines 11-16 and page 8, lines 3-5, also fig.3 shows how the polarized light vary the polarization angle); an analyzer coupled to the polarizer and the pixel sequence to pass a gray-scale portion of the beam of polarized light transmitted from the pixel sequence as a function of polarized angle (page, 8, lines 1-23), a transparent substrates (12) ; and a drive circuit (18).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4-5, 8 and 9, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Johary et al (5,196,839).

As to claims 4-5 and 9, Applicant's Admitted Prior Art discloses a liquid crystal display with a gray scale control for a color having a corresponding gray-scale value (page 8, lines 6-23). It would have been obvious to one skill in the art to have recognize that the Admitted Prior Art device has an interface circuit in order to caliberat the pixel sequence to display gray-scale (see, page 8, lines 12-23). Applicant's Admitted Prior Art has failed to explicitly teach the gray scale control includes a programmable driver. Johary is cited to teach that it is well known for a gray scale display circuit to have a programmable gray scale generators (drivers) to provide gray scale at the display (see, Abstract, col.2, lines 35-46).

Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to have incorporated programmable gray-scale drives of Johary into the system of Applicant's Admitted Prior Art, since this will allow the Admitted Prior Art device to have an advantage of automatically control the gray scale of a display in order to ensure simplicity and higher efficiency of adjustment operation without requiring operators.

As to claim 8, active matrix liquid crystal display is well know in a display art.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Kobayashi et al (5,680,185).

In regard to claim 7, Applicant's Admitted prior Art discloses a liquid crystal display

having a substrates (page 2, lines 5-10), but failed the substrate being a sapphire substrates. However, Kobayashi et al clearly shows that the substrates could be made of sapphire substrates (col.14, lines 39-46).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to have used Kobayashi's sapphire substrate into the device of Applicant's's Admitted Prior Art device since this will greatly reduce the interface properties and enabling a high quality silicon layer.

(11) Response to Argument

ISSUE 1: IN REGARD TO CLAIMS 1-3,6,10 AND 11.

On page 5, middle of the paragraph the Appellant states that "As shown in figures 3A and 4, multiple liquid crystal regions 10 are serially arranged in collinear alignment with the beam of polarized light". First, the claim never says that ***multiple liquid crystal regions*** are serially arranged in collinear alignment. Instead, the claim recites "***multiple liquid crystal display*** **pixels** *aligned collinearly*". Second, neither the specification nor the figures provide support for the claim recitation "... ***a multiple liquid crystal*** **display pixels aligned collinearly along the beam of polarized light**". The Appellant refers to page 9, lines 19-23 of the specification for support and quotes "serial arrangement of pixel in optically coupled

independent display". However, this statement does not read on Appellant's claimed invention "... ***a multiple liquid crystal display pixels aligned collinearly along the beam of polarized light"*** . Thus, the disclosure does not provide support for Appellant's claim limitation. Furthermore, on page 5, lines 4-6, ***Appellant agrees that the prior art in figures 1-3 discloses a single liquid crystal display 10 aligned collinearly along the beam of polarized light.*** It is also well known for Twisted Nematic Liquid Crystal Display pixels to be aligned collinearly along the beam of polarized light for varying the polarization angle.

ISSUE 2: IN REGARD TO CLAIMS 4,5,8 AND 9.

Appellant argues that Johary does not teach or suggest the claimed gray-scale control coupled to at least one pixel of the claimed sequence of pixel collinearly aligned along a beam of polarized light. Claims 4,5 and 9 recites a gray-scale control includes electronically programmable driver. Applicant's Admitted Prior Art teaches a gray-scale control (see, page 8, lines 6-23) and the patent of Johary is only cited to teach that for a gray scale display device to have a programmable gray scale generators (drivers) to provide a gray scale on the display (note, the Abstract also, col.2, lines 35-46).

Appellant also argues that there is no suggestion to combine the references. It is not necessary that the references actually suggest expressly or in so many words the changes or improvements that applicant has made. The test for combining references is what the references as a whole would have suggested to one ordinary skill in the art. **In re Sheckler**,

168 USPQ 716 (CCPA 1971); **In re Mc Laghlin** 170 USPQ 209 (CCPA 1971); **In re Young** 159 USPQ 725 (CCPA 1968).

ISSUE 3: IN REGARD TO CLAIM 7.

As to the statement made by the Appellant that Kobayashi does not tach the claimed collinearly aligned pixel sequence, however; Kobayashi is only cited to teach the recitation of claim 7 "a substrate comprises a sapphire" and not the collinearly aligned pixel sequence.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Amare Mengistu
Primary Examiner

A. Mengistu
November 30, 1998